



This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

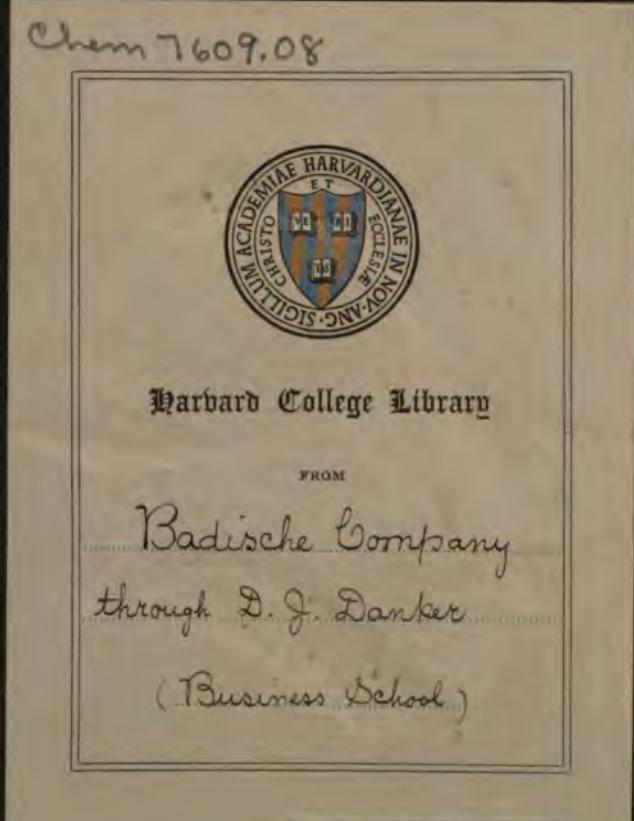
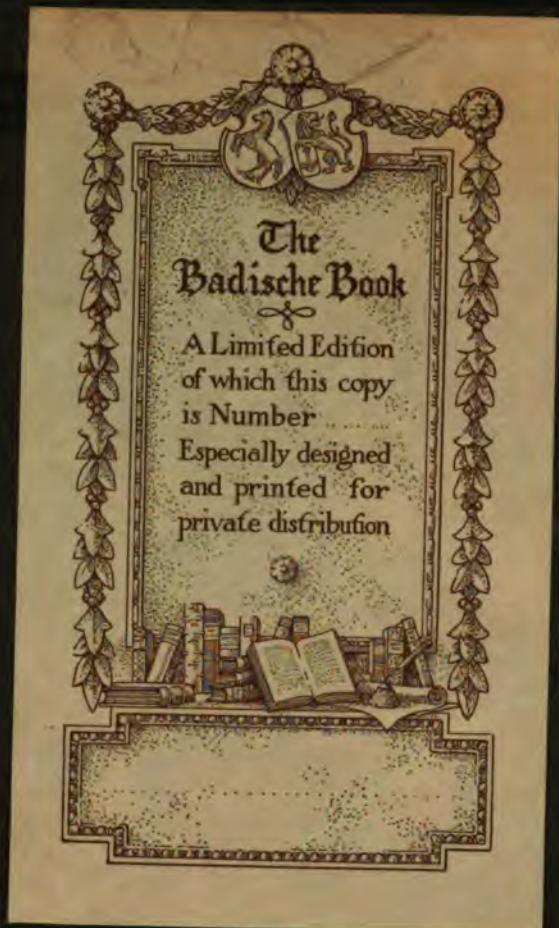
Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

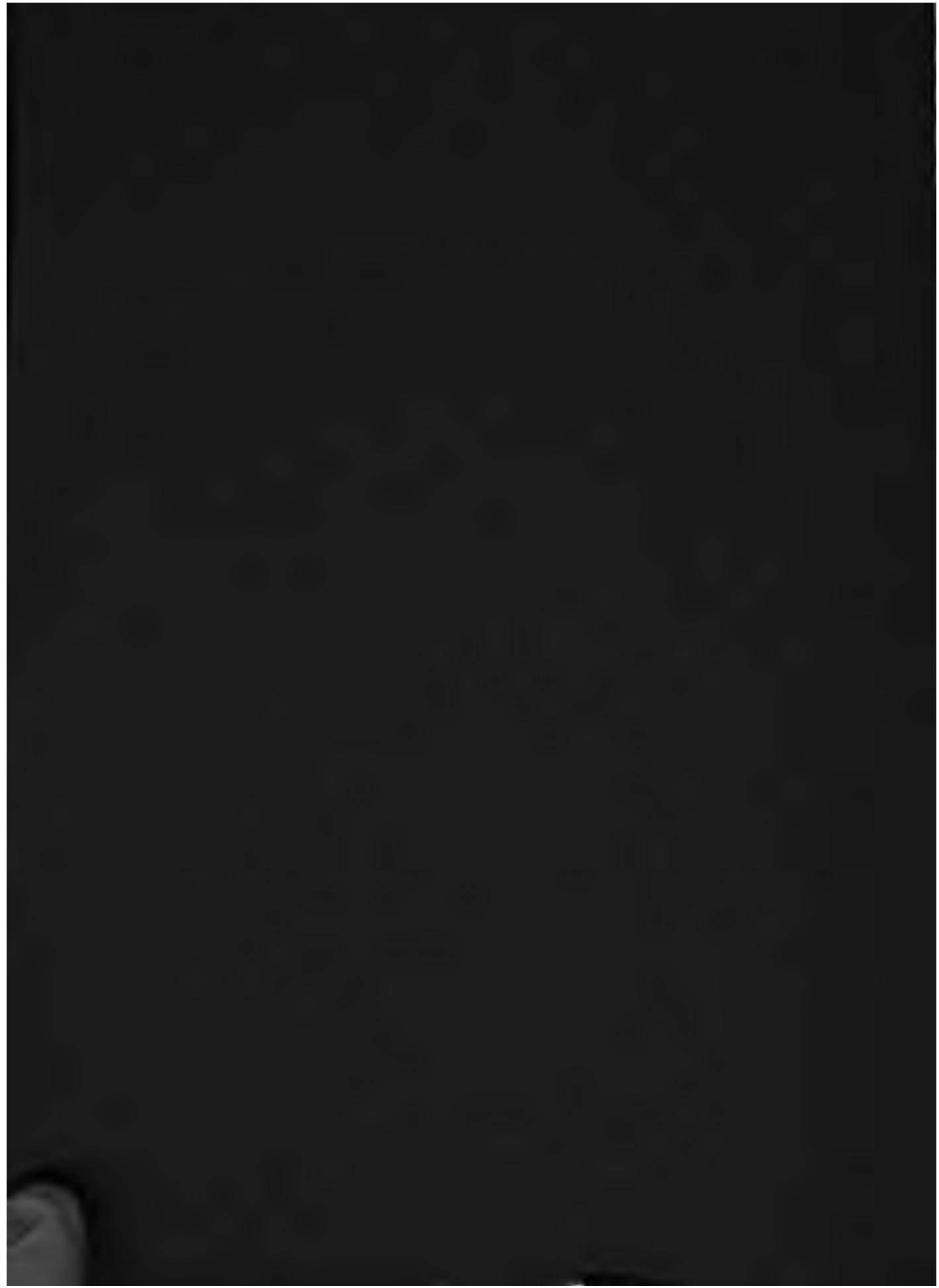
- + *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.
- + *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.
- + *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.
- + *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

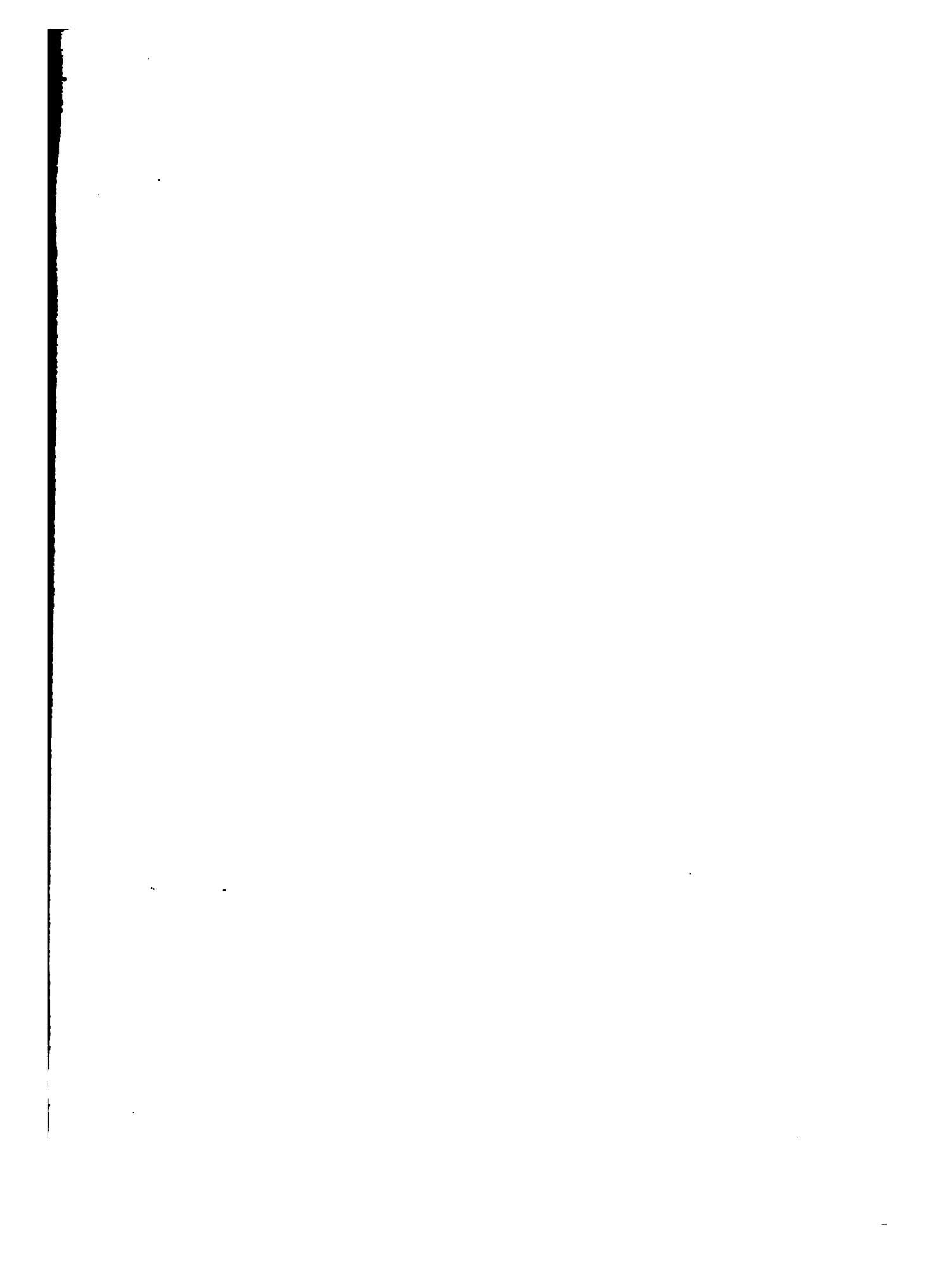
About Google Book Search

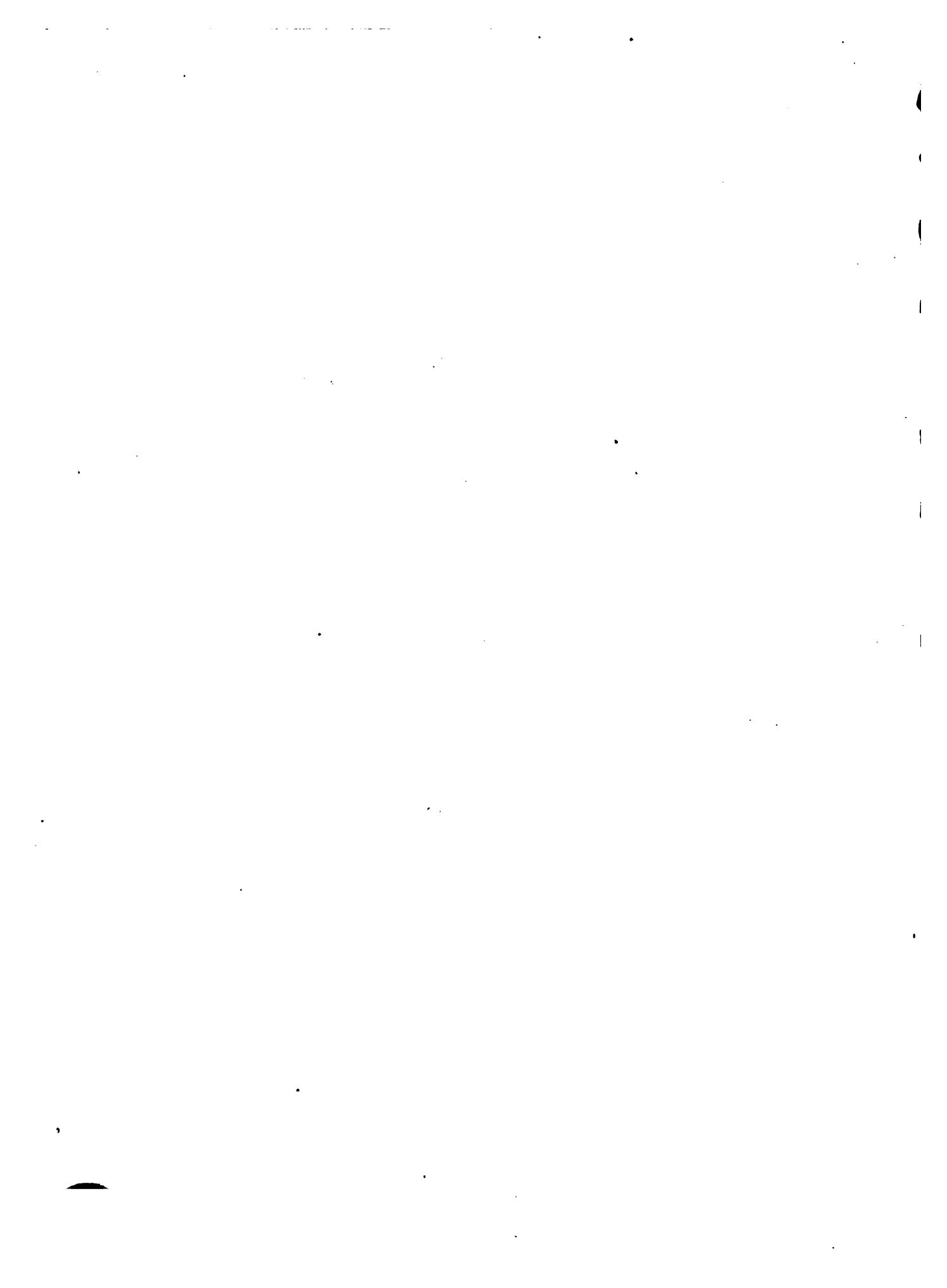
Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at <http://books.google.com/>











**Badische
Anilin- & Soda-Fabrik**



**Ludwigshafen=
on-the-Rhine
Germany**

1908

100-7604-63

ANNOUNCEMENT

THE BADISCHE ANILIN- & SODA-FABRIK WAS
FOUNDED IN 1865. ITS PRODUCTS WERE FIRST
INTRODUCED INTO THE UNITED STATES IN 1871
BY MESSRS. WM. PICKHARDT & KUTTROFF AND
MARKETED EXCLUSIVELY BY THEM AND THEIR
SUCCESSORS, MESSRS. KUTTROFF, PICKHARDT &
CO., FOR A PERIOD OF THIRTY-SIX YEARS, THE
LATTER FIRM BEING SUCCEEDED BY THE
BADISCHE COMPANY.

Badische Company

ADOLF KUTTROFF . . President
CARL PICKHARDT, 1st Vice-President
M. R. POUCHER }
H. L. WALDO } . Vice-Presidents
GEO. M. SNOW }
R. REICHARD . . . Treasurer
FR. KUTTROFF . . . Secretary

Sole importers of the products manufactured by

BADISCHE ANILIN- & SODA-FABRIK

Ludwigshafen a/Rhein, Germany

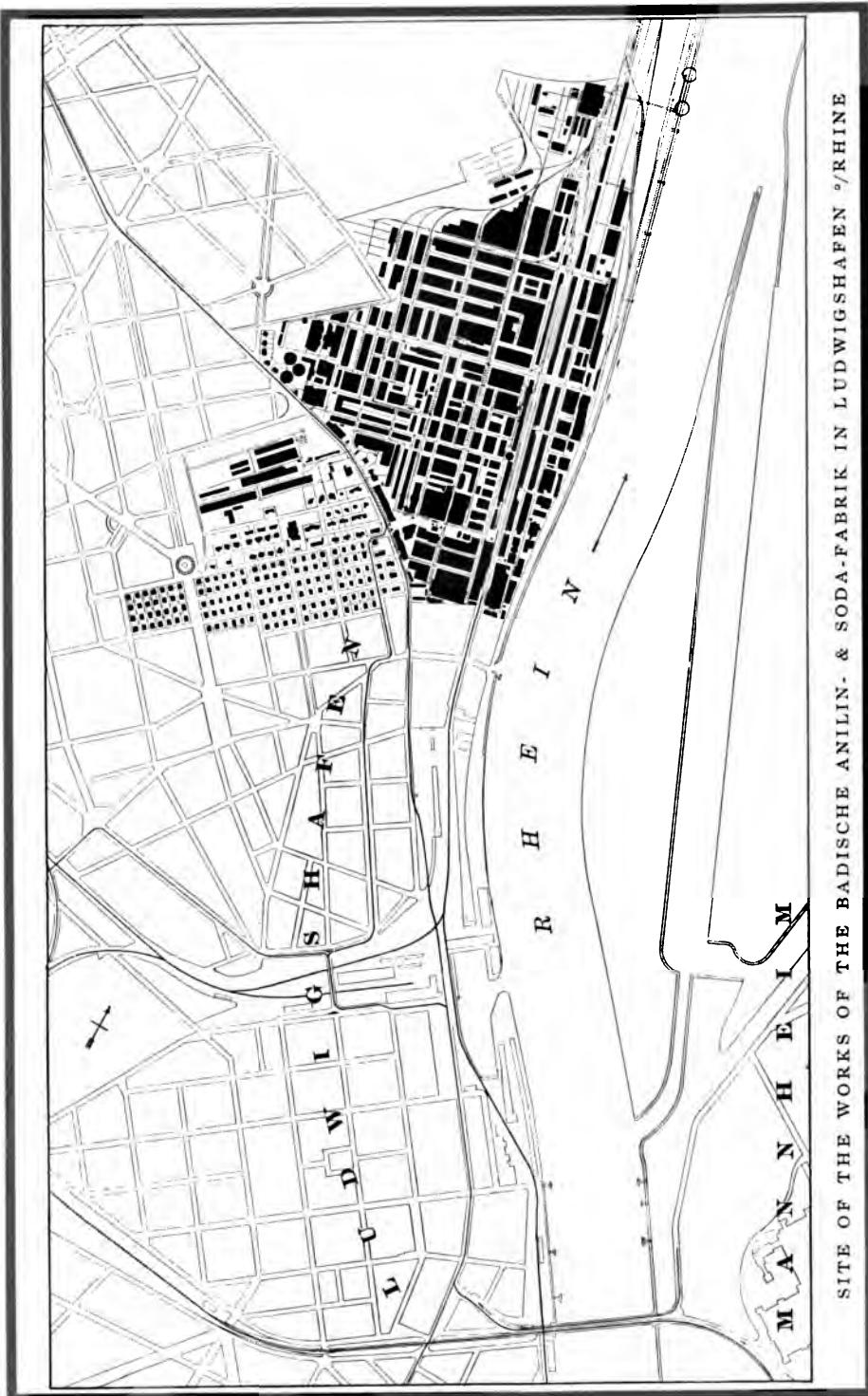
Formerly sold in the U. S. by

KUTTROFF, PICKHARDT & CO.

128 DUANE STREET . NEW YORK

BRANCH OFFICES

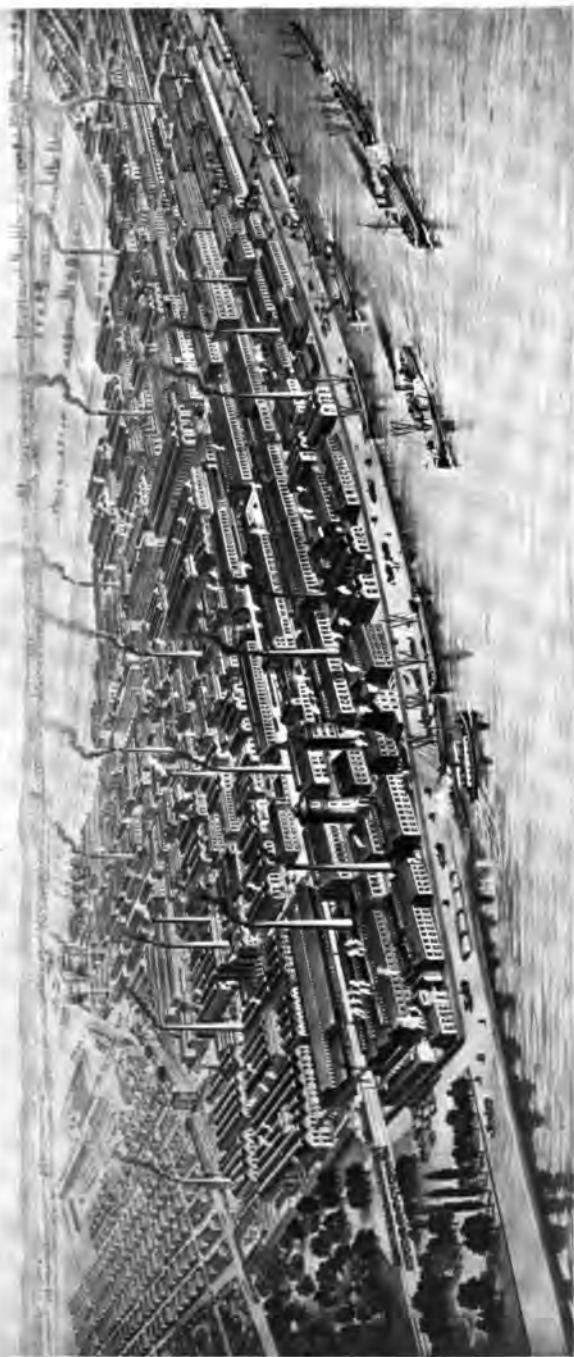
Boston . . .	86 Federal Street
Providence . . .	80 So. Water Street
Philadelphia . . .	238 Arch Street
Chicago . . .	228 Randolph Street
Montreal . . .	6 Lemoine Street
San Francisco . . .	587 Mission Street



SITE OF THE WORKS OF THE BADISCHE ANILIN- & SODA-FABRIK IN LUDWIGSHAFEN a/RHINE

Table of Contents

	PAGE
PREFACE	9
THE WORKS OF THE BADISCHE ANILIN- & SODA-FABRIK	10
THE PRODUCTS OF THE BADISCHE ANILIN- & SODA-FABRIK	14
THE INSTITUTIONS OF THE BADISCHE ANILIN- & SODA-FABRIK FOR THE BENEFIT OF ITS WORKMEN	26
WORKING CONDITIONS	
Safety and sanitation	27
Long-service premiums	29
Holidays	30
Houses for workmen and officials	30
Workmen's dining-rooms	36
CARE OF THE SICK	38
Ambulatorium	39
Workmen's sick club	39
Extra pay for the sick	41
Convalescent home in Kirchheimbolanden	41
Home at Dannenfels for consumptive patients	43
THE SUPPORT OF DISABLED WORKMEN AND WIDOWS AND ORPHANS OF WORKMEN AND EMPLOYEES	46
Fund for the aid of the workmen	47
Workmen's pension fund	48
Pensions for superintendents, foremen, etc.	49
An endowment by Dr. Glaser—Dr. Glaser's Charity	50
THE INSTITUTIONS FOR THE BENEFIT OF THE FAMILIES OF THE WORKMEN	51
Medical treatment	52
Home for nurses	52
Baths for women and children	53
Lying-in hospital	55
Housekeeping school	56
Workmen's library	58
Savings bank for workmen	59
THE INSTITUTIONS FOR THE BENEFIT OF THE OFFICIALS	61
Pension fund for the officials	61
Club house	64
GROUND FLOOR PLANS OF THE BUILDINGS	66



BIRD'S-EYE VIEW OF THE WORKS OF THE BADISCHE ANILIN- & SODA-FABRIK IN LUDWIGSHAFEN °/RHINE

FRONTAGE ON THE RIVER RHINE ONE AND ONE-HALF MILES

The Badische Anilin- & Soda-Fabrik

THIS business was established for manufacturing purposes and for the sale of the products made, and owes its success and growth to the perfection and untiring development of technical methods. But an establishment in which thousands work and earn their living, has also a task of great social importance to fulfil; that is, to watch over and encourage everything that will improve the condition of its employees and of all who, as members of this mighty organization, seek their welfare. At the present time the efforts of various industrial enterprises in this direction are watched with great public interest, and the company seeks to satisfy this interest by giving herein not only a description of that side of its work which deals with its manufactures, but also details of the various arrangements long since made for the general welfare of its employees.

On looking back upon the successes which the Badische Anilin- & Soda-Fabrik has achieved since its foundation, the management feel it to be their pleasant duty to remember gratefully the benevolent and appreciative support which their efforts have always met at the hands of the state authorities.

**The Works of the
Badische Anilin- & Soda-Fabrik
in Ludwigshafen °/Rhine**

THE Badische Anilin- & Soda-Fabrik manufactures principally coloring agents derived from coal-tar. The products comprise the entire range of artificial organic coloring matters—Aniline, Alizarine, Naphthol, Resorcine, Gallic acid dyes and Synthetic Indigo. Further, it produces all the intermediate and other products used in its manufacturing operations, including products of the Acid, Soda and Chlorine industries, namely, Sulphuric Acid, Sulphuric Anhydride, Hydrochloric Acid, Soda, Nitric Acid, Liquid Chlorine, etc.

The company is familiarly called the “Badische,” and, indeed, according to its statutes has its seat in Mannheim in Baden, because it was founded in that town, but now the entire factory and all the offices are in Bavarian territory, in the town and district of Ludwigshafen on Rhine.

The business was founded in the year 1865 and has kept pace with the tremendous development of the coal-tar color industry, so that it is at present the largest establishment of the kind in existence. The products of the company are distributed and sold in all parts of the world, and at the principal centers of industry and commerce the company has agencies and there

maintains a stock of its products. There are branch factories in Neuville-sur-Saône, in France, and in Butirki near Moscow, in Russia.

In Ludwigshafen on the Rhine there are engaged 217 manufacturing and research chemists, 142 civil engineers, and 918 officials in the commercial department. The number of workmen, including foremen, artisans and fitters, carpenters and the like, is at present nearly 8,000.

The freehold land of the company comprises an area of about 220 hectares, and of this 411,200 square meters (492,000 square yards) are built upon.

The position of the factory on the bank of the Rhine renders it possible to obtain a large proportion of raw materials, especially coal and pyrites, by water. Further, the manufactured articles may be shipped from there direct, and the very large quantities of water that are necessary for the manufacturing operations may readily be obtained. The coal is transported from the barges to the factory by means of a large electrically driven conveying plant of a capacity of 200 tons per hour, consisting of cranes and aerial wire rope tramway. A similar plant is employed for unloading and transporting pyrites. A number of steam cranes assist in loading and discharging ships and barges. The company also possesses a tank steamer for the carriage of sulphuric acid, with a capacity of about 600,000 kilos (600 tons).

The factory is connected by a branch line with the Palatinate Railway, and for internal transportation there is a network of railway of normal gauge, 67 kilometers in length (41.6 English miles), traversing the property in all directions. The company has its own railway wagons and works 7 fireless locomotives.

One hundred and fifty-eight boilers, containing 26,072 square meters of heating surface, produce steam which is used for heating purposes and also for driving 386 steam engines, aggregating 24,369 horse-power.

The local waterworks of the company deliver annually 46,000,000 cubic meters of water. The ice factory produces annually 12,000,000 kilogrammes (12,000 tons) of ice. The gas works produce about 22,000,000 cubic meters of gas, which is used partly for heating and partly for lighting purposes.

Thirteen dynamos, generating altogether 7,083 kilowatts, furnish the electric current for electrolytic manufacture, for 472 electro motors and for a lighting installation consisting of 1,336 arc lamps and 20,044 incandescent lamps.

A network of telephone wires and 411 substations facilitates communication between the different buildings.

In the workshops of the company artisans of all kinds are employed. They not only make all repairs that are necessary, but also construct a considerable portion of the manufacturing

plant, and prepare the necessary packages, barrels, tins, boxes, etc., used in the distribution of the manufactured goods.

The company has its own fire brigade, equipped with the most modern and perfect apparatus, including 25 steam fire engines, with 87 separate hose connections, 9,100 meters ($5\frac{1}{2}$ miles) of hose, and 539 hydrants.

The Products of the Badische Anilin- & Soda-Fabrik

THE enormous progress and changes which have taken place in the course of the past century in industry and commerce, are due, to a great extent at least, to the utilization of the energy stored up in coal. This dead mineral yields us heat, kinetic energy and light, but even this does not exhaust its utility. Chemical science and the art of the manufacturer have succeeded in producing from coal an unlimited series of valuable dyes, and by this means have brought into existence a flourishing industry.

It is but little more than thirty years ago that dyers were entirely dependent upon the so-called natural coloring matter obtained from plants and animals, or prepared from minerals, from metals or from earths. The introduction of dyes derived from coal-tar led to a complete change in the dyeing industry. A large proportion of the coloring matters in use for centuries has been entirely abandoned as far as practical application is concerned, and instead, these artificial products are used, which are characterized by a hitherto unknown beauty of shade and by surprising simplicity of application. The coal-tar color industry, the youngest of the great chemical industries, has within a few decades developed in a way that is truly wonderful. This brilliant success must be attributed

principally to the intimate connection between factory work and scientific investigation, for in this industry, more than in any other, theory and practice work together and mutually assist each other.

The history of the development of the coal-tar color industry is intimately associated with the history of the Badische Anilin- & Soda-Fabrik. At first this company only manufactured the few aniline dyes which were then known, such as Magenta, Aniline Blue, etc.; but in course of time a large number of the most important discoveries of science were utilized and the range of manufacture continually widened. Some of the new coloring matters derived from coal-tar placed the dyer in a position to obtain entirely new effects, hitherto impossible of attainment with the natural dyes. In addition, a series of tar products are now manufactured which are fully equal, and often even superior to those furnished by nature.

In the manufacture of gas and coke from coal, tar is obtained as a bye-product. From the tar, by distillation, benzene, toluene, xylene, naphthalene and anthracene are obtained, and these, together with gallic acid, a product of the vegetable kingdom, are used by the company as the initial materials for the production of dyes.

From the beginning, the company has worked upon the principle of itself producing

all the materials used as reagents in working up and converting the initial materials into dyes. This results in the manufacture of so-called "heavy chemicals," the products of the acid and soda industries, viz., sulphuric acid, sulphuric anhydride, hydrochloric acid, nitric acid, soda, chlorine, chromic acid, etc. For this purpose iron pyrites, salt, limestone, salt-petre, chrome ore, etc., are employed. The company can also claim to have enriched this branch of industry with a number of valuable achievements, especially by the method of the manufacture of sulphuric acid without lead chambers (1889), which later became of such epoch-making importance and caused a complete revolution in the sulphuric acid industry; the manufacture of liquid chlorine (1888), and recently by the industrial manufacture of stable solid sodium hydrosulphite, which is used for discharging and bleaching and also in the preparation of the indigo vat. Rongalite, which is employed in discharge printing, is derived from it.

The company has for a number of years past availed itself of the achievements of electro-chemistry in making chlorine and caustic soda by the electrolytic process.

The first important success of the Badische Anilin- & Soda-Fabrik in the manufacture of organic coloring matters was the commercial production of Alizarine. In the year 1868 Graebe and Liebermann, by their scientific research

work, succeeded in preparing Alizarine, the important coloring matter of the madder root, from a hydrocarbon, anthracene, contained in coal-tar. The Badische Anilin- & Soda-Fabrik worked with the discoverers in order to formulate and establish a rational process for the commercial manufacture of this dye, and this object was achieved in the year 1869. By means of this process, artificial Alizarine has since been manufactured. The production of this coloring matter has increased enormously and has proven to be of very far reaching importance to the industry.

The manufacture of Alizarine soon resulted in the introduction of important derivatives therefrom; among these may be mentioned in the order of their importance, Alizarine Blue (1878), and especially the soluble form of the same dye, Alizarine Blue S (1882), Alizarine Green and Alizarine Indigo Blue (1888), Anthracene Blue (1891), Alizarine Orange (1875), and Alizarine Maroon (1885). Closely connected with these colors produced from anthracene are some derivatives of gallic acid, namely, Galleine, Cœruleine (1878), Anthracene Brown (1886), and Galloflavine (1886); and in the year 1887 the series of mordant dyeing coloring agents was rounded off by the manufacture and introduction of the fastest black coloring matter —Alizarine Black, which is a derivative of naphthalene.

The Badische Anilin- & Soda-Fabrik did pioneer work in introducing the products named and so developing the class of mordant dyeing colors, and can further claim to be the first in the early recognition of the importance of such fast dyes for use for woolen fabrics, and in successfully effecting the introduction of these dyes into use in the woolen industry.

A new important group of anthracene colors, whose dyeing properties indicate them to be acid coloring agents of the anthraquinone series and which are distinguished by their eminent fastness, was introduced a few years ago. To these belong Anthraquinone Blue (1901), Cyan-anthrol (1902), Anthraquinone Violet (1902), Anthraquinone Green (1904).

The Badische Anilin- & Soda-Fabrik has also directed its attention, and with great success, to the other branches of the coal-tar color industry. In its laboratories several classes of aniline dyes have been discovered, or processes by which they can be commercially manufactured have been worked out. These dyes, which possess great beauty, may be used with great ease and in very many ways in dyeing wool, cotton, silk and leather and in the manufacture of paper and of lakes.

In this connection the Eosines come first. These were discovered in the year 1874 and were the first dyes of the resorcine class, to which belong also the Rhodamine dyes of a

beauty that has not been excelled, discovered in 1887. Methylene Blue, discovered in 1877, is one of the most valuable dyes for cotton. In the same year Acid Magenta, in 1878 Naphthol Yellow S, and in 1879 the first Acid Green, Light Green S, were discovered, and they are to this day absolutely essential in wool dyeing.

In the year 1883 the industry was greatly enriched by the introduction of coloring matter syntheses effected with the aid of phosgene. The research work in the new region thus opened up led at once to the discovery and manufacture of Crystal Violet, Victoria Blue, Acid Violet, Alkaline Violet and Wool Green, and especially of the most important dye, Auramine, which is largely used in dyeing cotton, paper and leather.

In the Induline class of dyes Acetine Blue has been manufactured since 1886 and has attained importance in calico printing, while Azocarmine discovered in 1888, is an important color for dyeing wool.

The Badische Anilin- & Soda-Fabrik also took a leading part in opening up the great field of azo-coloring agents. Among the number of important dyes of this class discovered by its chemists, are especially to be mentioned Fast Red (1878) and Blue Black (1882), the first black azo-dye. Brilliant Black may be regarded as a successor of this latter, as may also the more modern Palatine Black and Palatine Chrome

Black, which are used in the place of logwood in dyeing wool black.

In the year 1891, the Badische Anilin- & Soda-Fabrik brought into commerce Indoine Blue, an exceedingly valuable product for dyeing cotton, and among the further successful discoveries of the company a number of important cotton dyes must be mentioned, in particular Nitrosamine Red (1894), several substantive azo-dyes—Cotton Yellow, Carbazol Yellow, Pyramine Orange, the Oxamine dyes, etc.—and the new class of sulphur dyes—Fast Black, Kryogene Brown and Anthraquinone Black—all of which possess a high degree of fastness. Further, the introduction in 1895 of Rheonine, a valuable yellow dye for leather, deserves mention, as does also Lithol Red (1900), an azo-coloring matter which has become of the greatest importance in the lake color industry.

Quite a special interest, both on the practical and on the scientific side, attaches to the extremely fast coloring agents of the Indanthrene class introduced in 1901: Indanthrene Blue, Indanthrene Yellow (Flavanthrene), Indanthrene Gray (Melanthrene), Indanthrene Maroon (Fuscanthrene), to which have more recently been added the following products: Indanthrene Dark Blue BT and BO (Cyananthrene, 1904, Violanthrene 1905), Indanthrene Green (Viridanthrene 1906), and Indanthrene Violet (1907), all derivatives of Benzanthrone; Indanthrene

Bordeaux (1908) and Indanthrene Red G and R (1908), derivatives of Dianthraquinonylamin; the derivatives of Methylanthraquinone-anthraflavone (1907), Indanthrene Orange-gold (Pyranthrone 1908), and further Indanthrene Olive (Olivanthrene 1906), Indanthrene Orange (Fulvanthrone 1908), Indanthrene Brown (Rufanthrene 1907) and Indanthrene Copper (1908).

The oldest and most important of the coloring agents obtained from the vegetable kingdom are Alizarine and Indigo. The Badische Anilin- & Soda-Fabrik having at an early date succeeded, as already mentioned, in producing the former of these commercially from anthracene, regarded the replacement of the latter also by an artificial product from coal-tar as one of their most important tasks. In 1881 Baeyer had solved scientifically the problem of preparing Indigo synthetically, and in 1890 Heumann succeeded in discovering a new solution of this important question. Working together with these eminent scientists, the company endeavored to make these important discoveries commercially useful, and after persevering continuously for many years and devoting to the matter costly work without stint, its labors were finally rewarded with success. The great object is achieved—Indigo can be produced from coal-tar artificially in a manner that renders it capable of competing with the product obtained from the indigo plant, and since July, 1897, the

Badische Anilin- & Soda-Fabrik has placed Synthetic Indigo on the market under the name of "*INDIGO PURE B. A. S. F.*" This marked the beginning of a new epoch in the history of the coal-tar color industry, for the manufacture of this new product constitutes an addition of quite eminent importance to its field of operations.

The substitution of artificial dyes used for ages in the dyeing industry is the goal for which the coal-tar industry has consistently striven to attain. The economic importance of this is obvious: First, the building up of a great industry, and second, the releasing of vast areas for other and more profitable purposes than the cultivation of natural dyes. To-day many million kilogrammes of artificial Alizarine are manufactured annually, and the use of madder has almost entirely ceased. Cochineal was formerly used in large quantities, in round figures about 600,000 kilogrammes were used in Germany in the year 1872, but in 1907 the quantity used was only 71,000 kilogrammes. Archil has had to yield to the red azo-colors and to Azo-carmine. Curcuma has been displaced by Fast Yellow, Auramine and others, and Tartrazine has replaced Flavine. A large proportion of logwood hitherto employed has been replaced by black azo-dyes and Alizarine Black, and indeed the alizarine dyes generally threaten the dye-woods, and finally, even

vegetable indigo has been met by a victorious competitor in Synthetic Indigo. The introduction of the latter was a complete success. Founded on an installation on the largest scale, and carried on with the express intention of driving the natural product entirely from the field, the manufacture of Synthetic Indigo has now reached enormous proportions and is continually increasing. Corresponding to the increase in the production of Synthetic Indigo, that of the natural product is diminishing so that the cultivation of plant indigo, which even in 1897 showed a production of five to six million kilogrammes of a value of from sixty to eighty million marks, has sunk to about one-fifth. For instance, the Calcutta crop amounted in 1896 to 158,923 maunds, and in 1906 to only 33,360 maunds. In 1898 there were 122 indigo plantations in Java, where there are now only 28, and the crop has sunk from 12,580 chests in that year to 2,295 in 1907. The value of the plant indigo imported into Germany in 1897 was about 12,700,000 marks, but in 1907 only 1,083,000 marks, while on the other hand, the export of Synthetic Indigo from Germany reached in 1907 the value of 42,582,000 marks.

The issue of the struggle between the artificial and the natural product is no longer doubtful, plant indigo will in no long time share the fate of madder, and practically disappear from commerce.

The first impression which this fact produced was that the manufacture of indigo would cause a terrible calamity to arise in India, but if one calls to mind that India is periodically afflicted with famine, one ought not, without further consideration, cast aside the hope that it may be good fortune for that country if the immense areas heretofore devoted to a crop subject to many vicissitudes and to violent market changes, were at last given over entirely to the raising of breadstuffs and other food products.

The annual production in Germany of artificial organic coloring matters represents a value of 250,000,000 marks.

The Badische Anilin- & Soda-Fabrik has recently turned its attention to one of the most important problems of modern chemistry, namely, the utilization of the nitrogen of the air. The company has succeeded, by means of an original process, superior to any at present known, in burning the nitrogen of the air in an electric arc flame, and is now about to carry out its process on the largest scale in Norway, utilizing the enormous water power which that country has at disposal. Agriculture needs enormous quantities of saltpetre, the most important plant manure, and the demand grows from year to year so that within a short period the saltpetre deposits of Chili, up to now the sole source of this product, will be exhausted. The yearly production of Chili saltpetre amounts to 1,800,000

tons, of which the German agriculture absorbs about 500,000 tons. From these figures some idea can be obtained of the importance of the future of this industry, which is destined to supply the world's demand of saltpetre.

**The Institutions of the
Badische Anilin- & Soda-Fabrik
For the Benefit of its Workmen**

FROM the time of its organization, the Badische Anilin- & Soda-Fabrik has regarded it as a duty to consider in a comprehensive way the welfare of those in its employ, a great number of whom are heads of families. The company anticipated legislation in this respect by voluntarily establishing a complete series of institutions and dwellings which not only comply with the stipulations of laws subsequently enacted but are in advance of them. Time has shown these institutions to be thoroughly practicable and they are, therefore, described in the following pages.

The management of the various institutions is entrusted to a special department with a staff of 14 officials. This department has also charge of the insurance arrangements, against disablement and accidents, instituted by law.

We will preface the detailed description of the various institutions with a few general facts as to the number and working conditions of the workmen of the factory.

Average number of workmen engaged in the works in the years named:

In the year 1865	.	.	.	.	30
In the year 1875	.	.	.	.	835
In the year 1885	.	.	.	.	2,377

In the year 1895	. . . . .	4,450
In the year 1900	. . . . .	6,470
In the year 1905	. . . . .	6,972
In the year 1906	. . . . .	7,244
In the year 1907	. . . . .	7,711

On December 31, 1907, there were 7,918 workmen in the employ of the company. The following table will show the length of time that they have been employed:

Under 5 years	. . . . .	3,761
From 5 to 10 years	. . . . .	1,665
From 10 to 15 years	. . . . .	816
From 15 to 20 years	. . . . .	828
From 20 to 25 years	. . . . .	426
From 25 to 30 years	. . . . .	296
From 30 to 40 years	. . . . .	113
Over 40 years	. . . . .	13

Bearing in mind that the business is only 42 years old and at first employed only 30 workmen, this must certainly be regarded as a satisfactory state of affairs.

The hours of labor are from 6 a. m. to 6 p. m. There is an interval from 8 to 8.30 in the morning and from 12 to 1.30 at midday. The amount of night work done is restricted as far as possible and on Sundays nearly all the factories stand idle.

Safety and Sanitation

All machinery accessible to the workmen is fenced off or screened in for safety. In the case

of apparatus that might prove a source of danger if used in the wrong way, a placard is affixed in the immediate neighborhood, giving an accurate and clear description of the apparatus and directions for use, though only experienced and reliable workmen are supposed to have anything to do with such apparatus. Sanitary considerations have great influence in determining the arrangements for the comfort of the workmen in their homes and at the works. Wherever possible, the premises are lofty, well lighted and well ventilated. In the factories or in the laboratories where chemical operations are carried on that result in the production of injurious or unpleasant vapors or odors, suitable ventilating arrangements are made, and the air is kept pure by methods which work with the greatest accuracy.

Some workmen are of course employed on steam apparatus or in places where they are exposed to high temperatures. In order to avoid the evil effects of the excessive drinking of cold water, especially in the hot season, these men are furnished during work hours with coffee free of charge. In 1907, 211,000 litres were dispensed.

The workmen in the color factories are required to bathe thoroughly before leaving the works. For this purpose there are 53 wash and bath houses on the premises. These contain 623 shower-bath cells. At certain times the use of these baths is also permitted to workmen

not actually engaged in the manufacture of colors. In all cases the time required for the bath is allowed during work hours. Every color workman has a definite place in one of these baths for undressing and dressing, and for keeping his clothes. Before starting work he changes his outdoor clothes for his working clothes, and before leaving the factory takes his bath and again changes. Soap and towels are supplied by the company free of charge. The cost of building the baths amounted to 940,000 marks.

Long-Service Premiums

The endeavors of the Badische Anilin- & Soda-Fabrik to benefit its workmen, have resulted in getting together a class of men of a stable and industrious type, who feel that they and their families are in a position that is secure for their lifetime, and who are satisfied with their position. In order especially to emphasize recognition of their faithful service to the company, a system of long-service premiums has been introduced. By this arrangement workmen who have been in the employ of the company for five years are credited with a premium of 25 marks, and 25 marks for every further term of five years service until it reaches a maximum of 100 marks, which is then paid after twenty years of service. Time spent in military service is allowed during this period

provided no other interruptions occur. In the year 1907 the amount paid out for long-service premiums was 62,770 marks.

When married workmen who have been employed in the factory at least one year are called away to military drill, a certain sum is paid to their families. For each working day, or holiday falling on a week day, the amount allowed is the same as that which the workman would receive in case of sickness from the sick fund, alluded to later, but in no case more than 2 marks per diem.

Holidays

The company allows every workman who has been in its employ for an unbroken period of ten years, after attaining twenty-one years of age, an annual holiday of one week (sickness and military service are not counted as interrupting the period). During this week the workman receives his average wage and also a present of 7 marks.

The time of this leave is arranged between the workman and the manager of his department, and as far as possible with regard to his wishes.

Superintendents and foremen are paid their usual salary or wage, and have from seven to fourteen days leave annually.

Houses for Officials and Workmen

It must be regarded as one of the first conditions for the cultivation of a respectable, stable



WORKINGMEN'S DWELLING, HEMSHOF

and well satisfied class of workmen, that healthful and inexpensive dwellings be provided for them in which they may make comfortable homes for themselves and their families. Early in its history the company endeavored to solve this question. It erected to the west of the factory on open land, a number of dwelling houses for workmen. This colony has annually been increased in size by the addition of new buildings so that now an area of 140,000 square meters is occupied and 552 families are housed; altogether over 3,067 persons.

There are 146 separate houses. Those for the foremen are two stories high, the remainder are only one story high. The houses have been built with like regard for hygienic conditions,



SUPERINTENDENT'S DWELLING, HEMSHOP

practical arrangement and the comfort of the household of the workmen. Each house is entirely detached, surrounded by a garden, and is divided into four completely separate dwellings each of which has a separate entrance and its own garden. (See plans, pages 66 and 67.)

The ordinary workman's dwelling has two rooms, an attic, kitchen and cellar, besides about 120 square meters (150 square yards) of garden. The foremen's dwelling has three rooms, two attics, kitchen, cellar and garden.

The colony is provided with water from the corporation waterworks.

The erection of these houses for workmen has required the expenditure of 2,750,000 marks, which is thus invested without bringing in any



WORKINGMEN'S DWELLING, LIMBURGERHOF

interest; the rent is so low that it is not even sufficient to pay the cost of maintenance and repairs which annually amount to about 50,000 marks. The weekly rent of a workman's dwelling is 1.80 marks, for a foreman's dwelling 2.30 marks, that is to say, about one-third of what is charged for far inferior accommodations to be had in the tenements of the neighborhood. In consequence of the difficulties of obtaining land for increasing the Hemshof colony of workmen's dwellings in Ludwigshafen, the company found it necessary in the year 1899 to purchase an estate about five miles from Ludwigshafen in order to establish the Limburgerhof colony. This land is situated quite close to the railway station of Mutterstadt and has an area of 7,216



SCHOOL, LIMBURGERHOF

Ar (180 acres), so that there is room for the erection of dwelling houses for 1,160 families.

By the close of the year 1907 there had been erected at this location 63 dwelling houses, each for two families—about 750 persons in all.

In view of the great distance of this colony from the nearest settlements, the company opened in the colony in 1902 a school with seven classes for the children of workmen living there. This school now has an attendance of 200 children. In the schoolhouse there are, in addition to the schoolrooms, a chapel and a physician's office. Here members of the colonists' families may receive attention. At present the company employs four teachers, who reside with their families in the school and in houses



DWELLINGS OF OFFICIALS

close to the school, and one teacher of handiwork. The running expenses of the school are 11,000 marks a year.

The company pays the expenses of daily transportation to and from Ludwigshafen of the workmen residing in the Limburgerhof colony, as well as all those not living in Ludwigshafen who have to travel by train to the extent of 1 mark per week. In 1907 this amounted to about 90,000 marks.

The company also owns 111 houses intended mainly for officials, which are occupied by about 510 persons.

In this connection it may be remarked that the company has also built a gymnasium for its workmen and employees at a cost of 12,600



WORKINGMEN'S RESTAURANT

marks, which is daily used by the gymnastic clubs of the workmen and officials. The annual cost of upkeep reaches 1,800 marks, which is borne by the company.

Workmen's Dining Rooms

The company has provided a restaurant especially for the convenience of workmen who, owing to the distance, cannot go home during the dinner hour, and also of the great number of unmarried workmen, where they may obtain a good meal at a low price.

The building was erected in the years 1884 and 1885 at a cost of 85,000 marks. It consists of a kitchen with steam cooking apparatus and a dining-room with seats for 600 people.



DINING HALL

The dinner that is furnished corresponds to the ordinary soldiers' dinner and consists of six ounces of beef or pork and one quart of soup or vegetables, and is sold for the price of 20 pfg. (5 cents). Coffee is also to be had at a farthing a pint without milk or sugar.

Alcoholic beverages are not sold.

The cost of producing the dinner described is about 39 pfg., so that the company is obliged to subsidize the restaurant. In the year 1907 the subsidy amounted to 26,000 marks. On an average 500 dinners and 1,500 litres of coffee (say 330 gallons) are provided daily.

The dining room is open not only during the breakfast and dinner hours, but also in the evening from 6 to 8.30, and the workmen may

spend their leisure time there. On Sundays it is closed.

Many workmen who live at a distance have their dinners brought to them by their wives or children. For their convenience the company has built a dining-hall where the workmen may spend the dinner hour with members of their family, and eat in comfort the dinner brought them.

This dining-hall, which is surrounded by a court planted with trees, affords room for 240 persons and is used daily by about 200 workmen.

Care of the Sick

While the company does all that is possible to maintain the health of those in its employ, and to prevent accidents, it also takes the greatest possible care of workmen who may be hurt or suffer from illness. For this purpose the sick club retains doctors in the villages from which the workmen come, and besides there are in Ludwigshafen four doctors appointed by the company, three trained assistants and five nurses, and on the premises there is a suitable building, called the ambulatorium, containing surgery, dispensary and the like, where the doctors can examine workmen who complain of illness and can also treat any accident cases that may occur. Two of the doctors live in the immediate neighborhood of the workmen's colony, in houses provided by the company, and the fourth is

engaged to live in Friesenheim, a suburb of the town of Ludwigshafen, where a large number of the workmen reside who cannot be accommodated in the colony.

Ambulatorium

The ambulatorium is abundantly equipped with surgical instruments, including even those for so-called special treatments; also with apparatus for Swedish gymnastics, for electro-therapeutic and Röntgen rays treatment, electric light and tub baths, a laboratory for investigation, and facilities for photography.

In 1907, the maintenance of the ambulatorium cost 26,000 marks. The cost of this building for the sick, together with the equipment, instruments, etc., was 170,000 marks.

Workmen's Sick Club

Long before the system of compulsory insurance against illness was enacted by law, indeed early in the seventies, the company made arrangement that in cases where workmen of the factory were by illness rendered incapable of working, they might still receive pay from the company. In the case of married workmen this amounted to 90 pfg., while unmarried workmen received 60 pfg. daily. This pay was provided entirely by the company without any contribution being required from the workmen. In consequence of the imperial law of June 15, 1883, as to insurance of workmen



AMBULATORIUM

against illness, this arrangement was replaced on December 1, 1884, by a fund to which the workmen contribute. This fund exceeds the requirements of the law in its payments to members in the following respects: The pay, which is in proportion to the average earnings of the workman, is paid for all holidays that fall within the week, and the full amount is paid to the relatives when the patient is being treated in an infirmary or convalescent home.

Members contribute $3\frac{3}{4}$ per cent. of their wages up to a wage of 5 marks the day.

When this fund was established there were 2,365 members, at the end of the year 1907 the number was 8,218, and the payment amounted to 308,000 marks.

Extra Pay for the Sick

In the case of workmen who may suffer from illness and have been in the employ of the company for at least two years previously, if they do not receive assistance from any other club of a similar nature, the company adds a certain amount to the payments in addition to its contribution to the fund required by law. This extra payment is 25 per cent. of the actual wages as considered by the club in calculating the regular payment, and this also is paid for 26 weeks. This is paid whether the patient goes to the hospital or not. In the year 1907 the extra payments disbursed by the company amounted to 67,200 marks.

The Convalescent Home at Kirchheimbolanden

To supplement existing establishments for the welfare of its workmen, the company in 1903-1904 erected in Kirchheimbolanden a building with 22 beds for convalescents, and opened it for occupation in the fall of 1904. It is intended for patients who are unable to earn their living in the sense of the health insurance law, but who no longer require medical treatment and are only in need of a temporary sojourn in good air, and of proper food, in order to regain fully their ability to work. Epileptics, alcoholics, patients with contagious diseases and consumptives are not admitted. Admission is granted by the management of the



CONVALESCENT HOME, KIRCHHEIMBOLANDEN

fund at the request of the physician of the company.

The physician in chief of the company in Ludwigshafen is the medical director, and a local doctor of Kirchheimbolanden is the attending physician. The directress of the Convalescent Home is a nurse of the Bavarian Ladies' Red Cross Society in Munich, who is assisted by a nurse, a cook and two housemaids.

The building is of two stories, a main building and two side wings. It is surrounded by a garden and situated close to the woods. The ground on which it is built was for the most part the property of Herr Kommerzienrat Dr. Glaser of Heidelberg, formerly managing director of the company, who deserves great



HOSPITAL, DANNENFELS

thanks for his kind donation. In the year 1907 the Convalescent Home took care of 252 workmen, an equivalent of 5,351 nursing days. The longest stay was 44 days. The cost of a nursing day was 3.62 marks. The running expenses in 1907 were 19,400 marks.

Home at Dannenfels for Consumptive Patients

By the erection of this home, the company years ago put into practice an idea which most influential circles in several countries are exerting themselves to follow in order to bring about a more general adoption of the plan. The company's home for those suffering from diseases of the lungs is of the highest hygienic type and serves as a model for similar institutions.

The percentage of workmen at the factory who are affected by tuberculosis is considerably less than the average of the general population (23 cases to 5,000 workmen). Still the nature of the disease is such that the sufferers could not take advantage of many of the arrangements that already existed for the benefit of other patients. Further, there was a wish on the part of the management that all workmen suffering from illness should receive the best possible treatment. For these reasons a special home was built for consumptive patients, so as to promote their recovery as far as possible and at the same time prevent the spread of the disease, through the removal of these patients from association with healthy persons.

This home was built in the years 1892 and 1893 near the village Dannenfels in the Palatinate. The choice of the site, the arrangement of the building, the fitting up and the size of the rooms were all absolutely dictated by the requirements of modern science in the case of such homes. The position is sheltered, it is at the foot of the Donnersberg, about 1,300 feet above the sea level and five miles from Kirchheimbolanden railway station. The land immediately surrounding the home comprises 25,000 square meters (nearly 30,000 square yards), and consists of meadows and a forest of chestnut trees. The building is located on the steep side of the wooded hill. It is arranged

to accommodate 24 patients. It is in part three stories high; the main front is of two stories and faces south. The second and third stories comprise the rooms for patients, attendants, lavatory and the nurses' dwelling. On the west side of the building the second story is directly connected with the gardens and the open summer hall by a glass covered hall. In these halls the patients may sit or lie at ease virtually in the open air. On the first floor there are the dining-room, reading-room, doctor's-room, office, bath, wardrobe, laundry, kitchen, etc. In the attics and the cellar are the necessary storerooms and other rooms for carrying on the household work. A little way from the main building there is a farm building containing house for a watchman, pig-sty, fowl-pens, a laundry and coal-shed. The requisite water for the establishment is supplied by the Dannenfels waterworks.

The home is kept open the whole year. The physician in chief of the company in Ludwigshafen is the medical director, and a local doctor from Kirchheimbolanden is the attending physician. The nursing and housekeeping is undertaken by a sister of the Bavarian Ladies' Red Cross Society, who is assisted by two nurses, a cook and two servants. The duration of the stay of patients has been fixed at three to six months, but in special cases, at the recommendation of the doctor, the stay may be further prolonged. In those cases where the payments of

the sick fund have ceased, the company voluntarily gives such patients payments to the amount that they have hitherto received from the club, together with the extra payments previously referred to, for the further time they spend in the home.

From the opening of the home on September 1, 1893, to the end of 1907, 472 patients were treated at Dannenfels. Of the 448 patients who left the home up to the end of 1907, 113 are at present employed at the works.

The cost of erecting the home amounted to 180,000 marks. The total number of days of treatment in 1907 was 7,804, and the running expenses amounted to 24,600 marks.

The cost of each patient per day amounts therefore to 3.15 marks. The outlay for board alone amounts to 1.47 marks. For medical treatment and medicine $22\frac{1}{2}$ pfg.

The Support of Disabled Workmen and the Widows and Orphans of Workmen and Employees

In the year 1878 the company started a fund for the support of persons in their employ who had become unfit for work and of the widows and orphans of those who died, and yearly contributions brought this fund in the year 1887 up to 450,000 marks. Of this sum, 200,000 marks were transferred to the Officials' Pension Fund as a first endowment and the balance was employed in the formation of a

Fund for the Aid of the Workmen

In each of the years 1888 and 1889 the company supported this fund with 50,000 marks; from 1890 to 1907 annually with 100,000 marks; in two years, however, with 200,000 marks, and in 1908 with 300,000 marks, so that it has now reached the sum of 2,700,000 marks. This draws interest from the company at the rate of 4 per cent. This interest was formerly employed in giving workmen, foremen, etc., who had been at least five years in the service of the company and were no longer capable of working through age or accident, a sum in addition to the invalid annuity legally due to them, and in supporting widows and orphans of deceased workmen, foremen, etc., with continuous payments. Assistance is thus given to the extent of from 10 to 100 marks per month, the amount being determined by the length of service and the condition of the family; in fact, each case is judged by the management by itself.

From January 1, 1908, however, the newly created Workmen's Pension Fund and the Pension Fund for Superintendents and Foremen took over the payment of annuities to those workmen and employees who after that date became unfit for work. The fund for the aid of the workmen on the other hand has charge of the payment of the annuities to those who have been invalidated up to the end of 1907, as well as of the support to the widows and orphans, as in the

past, and besides gives help in exceptional cases of distress, etc.

The payments made at present by the Workmen's Support Fund are received by 390 persons, comprising 149 invalids, 226 widows and 15 orphans without guardians, and amounted in 1907, including the occasional contributions in case of distress, to 94,550 marks.

The payments of this fund are voluntary and can be revoked. In order, therefore, to give the workmen a legal claim to pensions, the company has founded from January 1, 1908, a

Workmen's Pension Fund

The purpose of this fund is to give to the workmen, who through age or accident are incapable of further work, an annuity.

Every workman who after attaining twenty-one years of age has been in the employ of the company for an unbroken period of five years (conscription and sickness are not held as interrupting the period) is entitled to a claim to the fund.

Those workmen who in the sense of the accident insurance law become incapable of work during their stay at the works, can claim an annuity.

If such a workman is invalidated he receives an annuity of the same amount as provided by law, but calculated according to the number of years he has been in the service of the Badische

Anilin- & Soda-Fabrik, and it continues for the same period as the legal annuity. The payment of the annuity begins when the workman no longer draws his wage or, in the case of sickness, no longer receives sick money. The annuities are paid at the end of each month, those months being paid in full in which the claim to the pension begins and ends.

The workmen do not pay an admission fee or any other contributions.

The company pays a yearly sum of 100,000 marks till an expert certifies that further contributions are not necessary for the fund to fulfill its obligations.

The institution is managed by a committee consisting of five members, of whom three are officials of the company and two workmen entitled to the fund, nominated by the management of the works for one year.

Pensions for Superintendents, Foremen, etc.

Formerly the employees of the company who were neither workmen nor officials (such as superintendents, foremen, draughtsmen, petty clerks, office servants) had to depend upon voluntary contributions from the Workmen's Support Fund. To assure the future of these dependents also till legislative steps are taken to provide pensions for private employees, the company has provided for pensions in the following manner:

If any of the above-mentioned employees of the company should become incapable of further

work after five years' unbroken service with the Badische Anilin- & Soda-Fabrik after his coming of age, he receives a pension of one-eightieth of his fixed salary for every year's service, in so far as the income in the case of those persons paid monthly does not exceed 3,600 marks per annum, and of those paid weekly 1,600 marks. That is, for instance, after five years, 5/80; after six years, 6/80; up to 40/80 of the income in question.

All those who on January 1, 1908, had claim by their service to a pension, are credited with the period served without interruption after their twenty-first year. In the case of the others, who first attain this position after January 1, 1908, but who were previously in the service of the company, the Workmen's Pension Fund takes the time spent in the company as workmen into consideration.

In case of death, the widow receives the half of her husband's pension, and every child under fifteen years of age gets one-tenth of such pension, but widow and children together may not receive more than the total of such pension.

The Dr. C. Glaser Charity

It often occurs that workmen, after a severe illness, recover their health, but not completely, so that it would not be advisable for them to continue work in a factory, but obviously best to leave the town and to seek work of a different nature. In order to facilitate such a change

of residence and occupation by conferring a lump sum of money on the workman in question, Herr Kommerzienrath Dr. Glaser endowed this charity in the year 1893.

This consisted of a capital sum of 32,000 marks, and according to the conditions of the trust the interest on this sum and a portion of the capital may be used annually. This amount is divided in sums of not less than 100 marks and not more than 500 marks among those entitled to the assistance. Upon this basis, the endowment will serve its purpose for a term of about 20 years.

The distribution of the money is entrusted to the management of the regular fund for the sick. In the year 1907 they divided 1,350 marks.

Institutions for the Benefit of the Families of Workmen

The families living in the workmen's colonies at Hemshof and Limburgerhof—in all about 4,000 souls—have not only the advantage of a healthy and cheerful home, but can also (like the families of the other workmen of the company who live in Ludwigshafen) make use of a whole series of institutions founded by the company for the benefit of the families of their workmen. A description of these will be found in the following pages.

Medical Treatment for Families of Workmen— Home for Nurses

The company has also arranged that the members of the workmen's families living in Ludwigshafen and Limburgerhof shall in case of illness have the advantage of free medical treatment, and in the year 1890 a suitable house was built at a cost of 42,000 marks to assist in this object. In this house five nursing sisters live, there is an ambulance, waiting room, surgery, and separate rooms for a trained medical assistant.

The Central Committee of the Bavarian Ladies' Red Cross Society of Munich has appointed five nursing sisters for this service. The company undertakes their support from its own funds. These nurses act under the directions of the company doctor, and when necessary nurse and attend to the sick members of the workmen's families.

Tickets are issued entitling married workmen to the use of this institution for members of their families, and these tickets may be obtained by any married workman living in Ludwigshafen or Limburgerhof as soon as he has been employed at least two years by the company. In the year 1907, 3,100 of these tickets were issued.

A special ambulatorium has been fitted up for consultations, where a specialist for diseases of women may be consulted twice a week. On



WOMEN'S AND CHILDREN'S BATH

request, the company also contributes to the cost of maintenance in an infirmary of the wives and children of the workmen.

The maintenance of this institution for the free medical treatment of the workmen's families cost in the year 1907 31,700 marks.

Baths for Women and Children

In view of the importance of baths from the point of view of health, the company has arranged to afford to the wives and children of the workmen an opportunity of bathing regularly, just as the workmen of the factory may do. The bath-house was built in the year 1893, situated among the workmen's dwellings. It stands in a garden of 1,500 square meters



LYING-IN HOSPITAL AND SCHOOL FOR DOMESTIC ECONOMY

area (about 1,800 square yards) planted with plane trees. In addition to rooms for the attendants and the boiler house with cisterns, there is an actual bathing space of 225 square meters. This is divided into six compartments furnished with ordinary baths and 18 with shower baths. The water is warmed to a temperature of about 35 degrees Centigrade. The bath-house is open every week-day from eight in the morning until eight in the evening, and is free to the wives and children of workmen residing in Ludwigshafen or Friesenheim who have been employed by the company for at least two years. The baths are very popular. In the year 1907, 44,700 availed themselves of these facilities, an equivalent of say, 152 baths

a day. The building and arrangement of the bath costs 43,000 marks. The outlay for heating, attendance, and maintenance in the year 1907 was 11,000 marks.

Lying-in Hospital

Another arrangement of great hygienic importance is the lying-in hospital for the wives of workmen. This institution has proved itself to be most useful and beneficial in ameliorating the conditions that frequently obtain in many workmen's families on the birth of a child.

In this institution the wives of workmen who have been at least two years in the service of the company and who reside in Ludwigshafen or Friesenheim receive free treatment and nursing from the time of the birth until their recovery of health.

The hospital was built in the year 1894 at an outlay of 33,000 marks, and affords accommodations for ten patients. It is a two-story building containing five wards, ten beds, a doctor's room, rooms for the nurses, bath rooms, and the necessary household rooms.

Every hygienic measure has been given due consideration in all the arrangements. The lighting and heating is effected by gas, and water is obtained from the town waterworks. Two nursing sisters of the Baden Ladies' Society attend to the patients, one of the nurses being a qualified midwife.



NURSES' HOME

In the year 1907 there were 155 patients who were treated in all for 2,046 days. The entire outlay amounted to 9,000 marks. The expenses of the lying-in hospital amounted in 1907 to 58 marks per head.

Housekeeping School

With the intention of elevating and improving, in every direction, the condition of the workmen and their families, the company has endeavored not only to care for them materially and in the matter of their health, but has also undertaken an educational work.

It is generally recognized that one of the most frequent causes of unfortunate conditions in workmen's homes lies in the fact that the

housewife does not understand the management of a household. This led the management of the company to erect for the daughters of the workmen a housekeeping school.

A two-story house was built for this purpose. It comprises a class-room, a dining-room, a kitchen with four ranges, bedrooms for the superintendent and the teachers, and dormitories for eight pupils. In the basement, a laundry, ironing-room and store-rooms; in the attic a space for drying clothes, etc. In the immediate neighborhood of the building is a vegetable garden of 1,000 square meters (about 1,200 square yards) area. The school was opened on August 1, 1894. It accommodates twenty-four pupils. The course occupies a year, beginning in May and ending in April. Twenty to twenty-four pupils are admitted each year.

The instruction is given by three ladies especially qualified to teach these varied and important subjects.

The course of instruction comprises cooking and the preparation of food generally, washing, ironing, housework of all kinds, gardening in the kitchen garden, marketing, needlework and work with the sewing-machine, cutting out and making up and repairing linen and clothes. Besides the practical course in these subjects there is more theoretical instruction on the principles of human nourishment, value of food

stuffs, hygiene, the nursing and care of invalids and children, and household book-keeping.

Board, lodging and instruction are absolutely free to the pupils. The outlay for building and arranging the school amounted to 52,280 marks. The cost of instruction for a year for 24 pupils requires an outlay of 11,000 marks.

The Workmen's Library

Herr Kommerzienrat Hanser, a director of the company, who died in 1895, founded the nucleus of a workmen's library. When the necessary rooms became available in the club house, the library was opened in January, 1901. Its object is to educate and entertain chiefly the workmen, but also other employees of the company. No fee is charged for the use of the library.

The workmen's library consists of a reading-room and the book-room, and is open every Wednesday and Saturday evening and on Sunday mornings. The reading room is provided with a large number of periodicals.

At the opening of the library the number of books was 1,380; at the present time this number has been increased by various donations to 4,200, a catalogue of which is furnished free to the public.

The use of the library is by ticket; these are supplied to the various workmen on application. During 1907 there were 1,900 tickets



CASINO

given out, of which 685 were in use. About 85 per cent. of these were used by workingmen and 15 per cent. by officials.

The number of volumes loaned during the year 1907 was 28,141. In the section of juvenile literature 6,942 volumes were in use in 1907.

The library is managed by a librarian and an assistant. On loan days an additional assistant is in attendance.

The annual running expenses average 2,600 marks.

Savings Bank for Workmen

With the object of inducing the workmen to put by money, the Badische Anilin- & Soda-Fabrik maintains a savings bank to give its



CASINO HALL FOR FESTIVALS

workmen and foremen an opportunity to deposit and invest what they may be able to save from their earnings as conveniently and advantageously as possible.

Up to 3,000 marks the rate of interest on deposits is 5 per cent., and between 3,000 and 5,000 marks, the latter being the maximum, 4 per cent. a year. The minimum deposit allowed is 1 mark, the maximum in any one month 100 marks, and the maximum for a year 1,000 marks. Deposits and withdrawals may be made daily at the bank during certain fixed hours. Workmen who are invalidated and leave the factory, or widows of depositors who receive support from the benevolent fund, may continue to use the savings bank. Officials may also be



CASINO DINING-ROOM

depositors. The bank is conducted by officers appointed and paid by the company, and it is their duty to observe the strictest secrecy concerning the individual amounts deposited. The company guarantees the safety of the deposits and interest.

In 1907 the number of depositors was 2,050, the deposits amounted to 1,688,000 marks, and the interest credited to 79,000 marks.

**The Institutions of the Badische Anilin- & Soda-Fabrik for the Benefit of its Officials—
Pension Fund for the Officials of the Company**

On January 1, 1888, the company founded a pension fund for officials and endowed it

with an original capital of 200,000 marks. The members of the fund make ordinary and extraordinary personal contributions to it, and the company has engaged to pay as its ordinary contribution, an amount equal to the ordinary payments of the members. Further, the company pays as its extraordinary contribution the same amount, and has undertaken to do this until the actuarial audit of the accounts of the fund show that the total contributions may safely be lowered.

Through the endowment and the extraordinary contribution above referred to, the company obtained for the officials who were associated with the business when the fund was started, the right to date back their claim for pensions to January 1, 1873. Each member of the fund pays 4 per cent. of his fixed annual salary up to the amount of 4,500 marks as an ordinary contribution, and each time that his salary is increased up to this maximum, he makes an extraordinary contribution of 25 per cent. of the increase. Members of five years standing, who become incapacitated, receive a pension of five-fortieths of their salary, and this pension increases by one-fortieth for every year that they have been contributors, until a maximum of forty-fortieths is reached. In the case of the death of a member of the fund his widow receives as her pension half the amount due to her husband, and every child under seventeen



DWELLING OF OFFICIALS

years of age receives one-tenth as a contribution toward its education, but the widow and the children together may not receive more than the full amount of the pension. Any member who is over sixty years of age and has been for thirty years in the fund may demand a pension without further formality. In case a member desires to be pensioned earlier, he must produce medical proof of his incapacity for work.

The number of members, which was 202 when the fund was started, rose to 739 at the end of the year 1907. The capital of the fund, which, as far as it is invested in the business, bears 4 per cent. interest, and on December 31, 1907, amounted to 4,637,000 marks. In the year

1907 the income of the fund was 486,260 marks, and payments to members, widows and children amounted to 57,400 marks, while 8,366 marks were returned to members who resigned from the fund, and the cost of management amounted to 1,170 marks.

Club House

The company in 1899-1900 built a club house to afford the officials of the company opportunities for general social intercourse, and a pleasant place in which to spend their leisure time, further to provide for those officials who live some distance from the works a good restaurant at which to take their lunch. The furnishing of the club house is a gift of the late Herr Geheimer Kommerzienrath Dr. G. von Siegle, of Stuttgart, a former director of the company.

The restaurant accommodates 200; there are other rooms for the officials' club—reading and conversation rooms, a billiard room, etc. There is also a hall for meetings and social entertainments, and the library and reading room for the workmen.

The foregoing description of the arrangements made by the Badische Anilin- & Soda-Fabrik for the benefit of those in its employ, and their families, will serve to illustrate sufficiently the main features of its endeavors in this direction. But even beyond the limits sketched in the above, the company contributes to useful



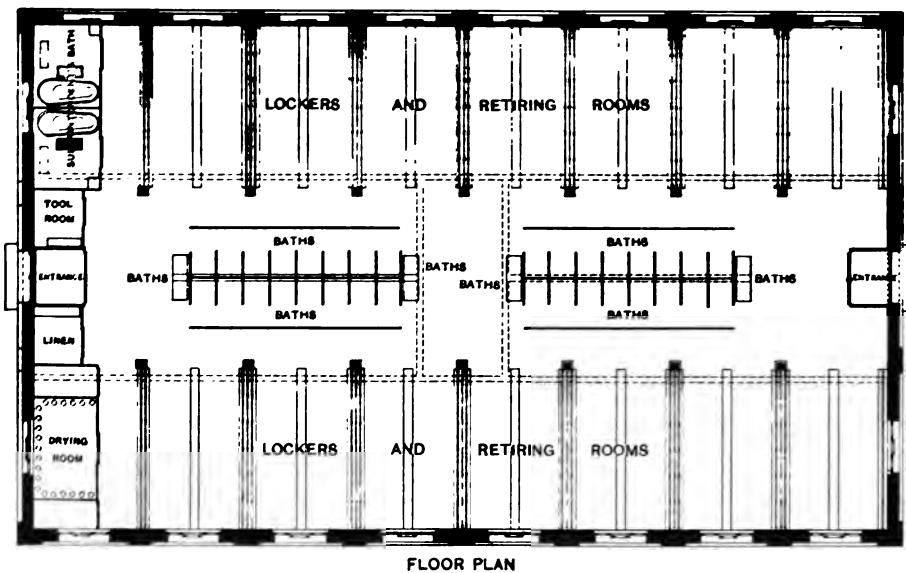
DWELLING OF OFFICIALS

and charitable movements by numerous gifts to societies and public institutions.

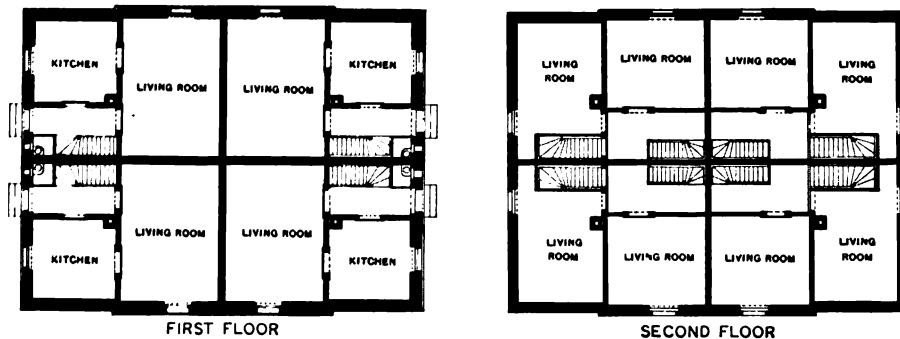
The purpose of the foregoing pages will have been fulfilled if the picture given of the activity and method of working of one of the most important industrial undertakings of Germany, shows clearly not only the importance of the coal-tar color industry for the national welfare from an economic point of view, but also the effective and beneficial part which the large industrial undertakings are able to exercise towards the solution of the social question, and finally the high value inherent to industrial work.

THE BADISCHE ANILIN- & SODA-FABRIK

Floor Plans of Various Buildings
of the
Badische Anilin- & Soda-Fabrik

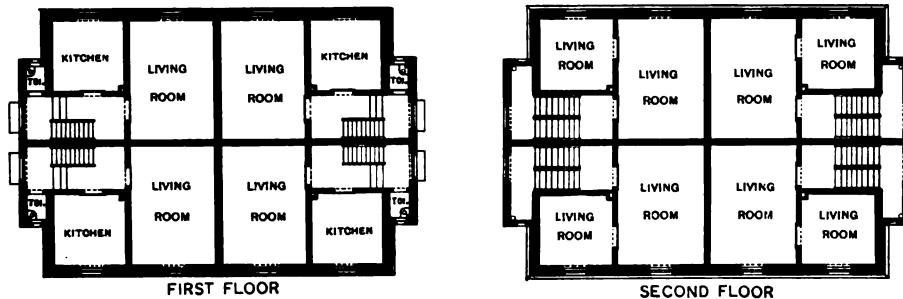


WORKINGMEN'S BATH

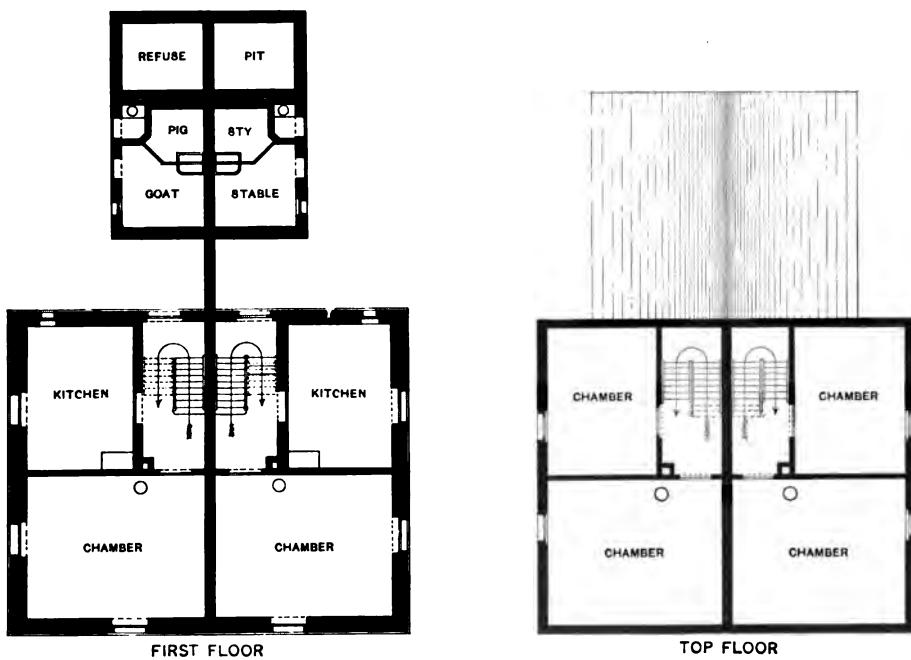


WORKINGMEN'S DWELLINGS, HEMSHOF COLONY

THE BADISCHE ANILIN- & SODA-FABRIK

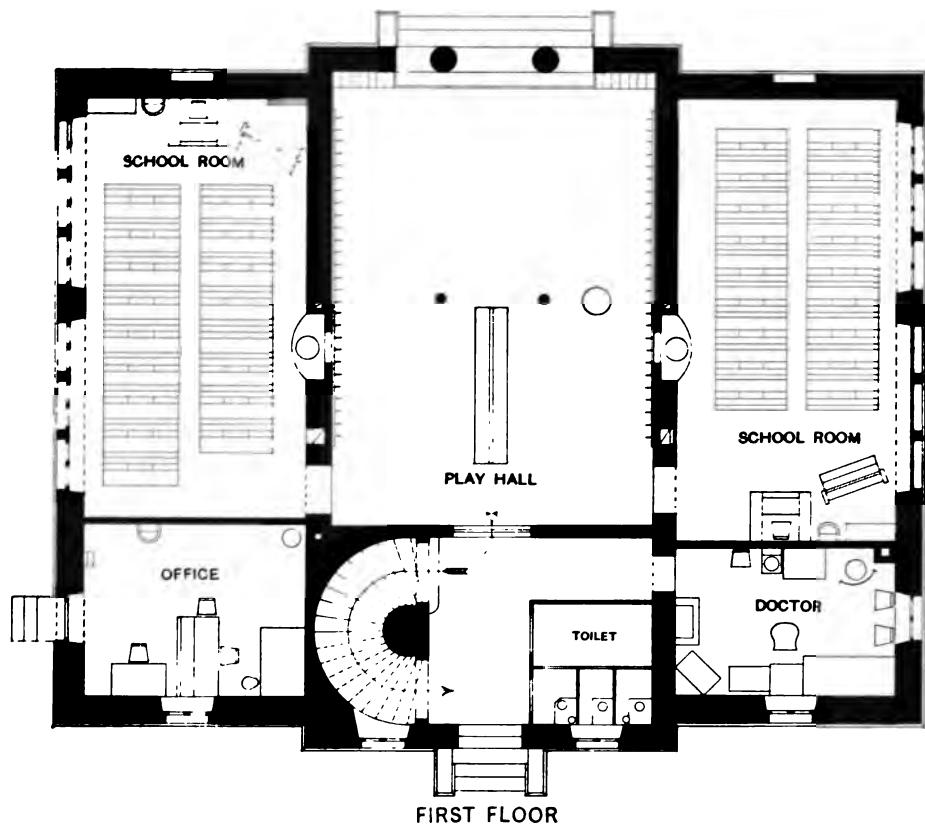


SUPERINTENDENTS' DWELLINGS, HEMSHOF COLONY

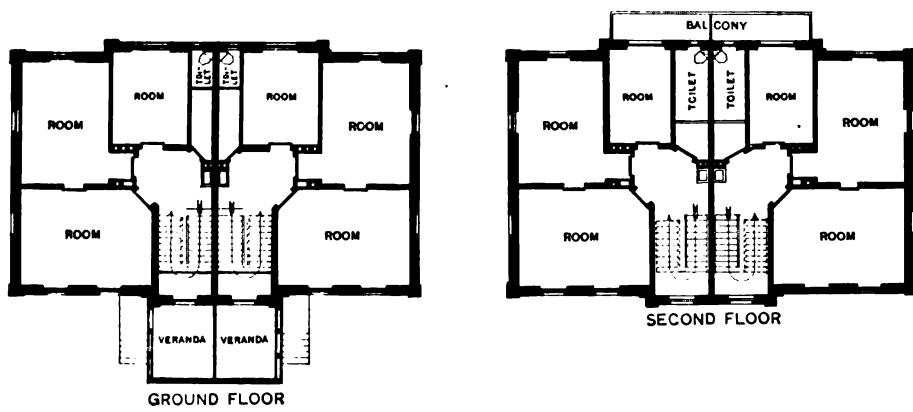


DWELLING FOR WORKMEN, LIMBURGERHOF COLONY

THE BADISCHE ANILIN- & SODA-FABRIK

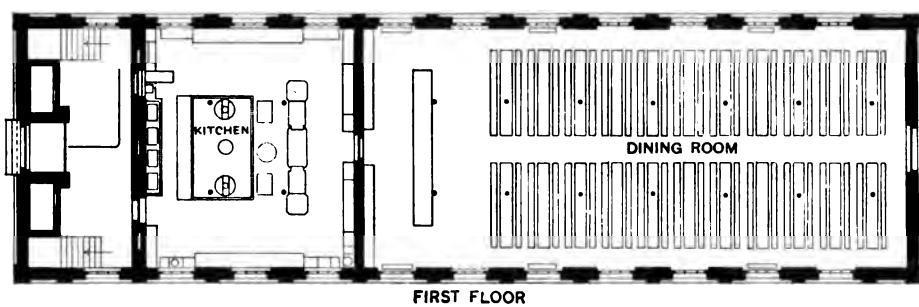


SCHOOL HOUSE, LIMBURGERHOF COLONY

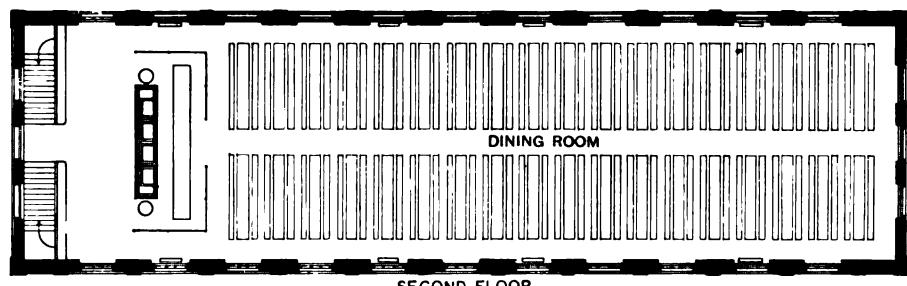


DWELLINGS FOR OFFICIALS

THE BADISCHE ANILIN- & SODA-FABRIK

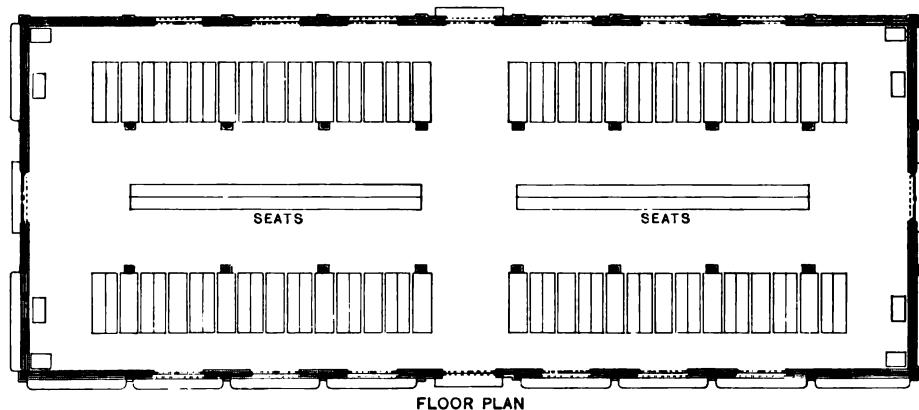


FIRST FLOOR



SECOND FLOOR

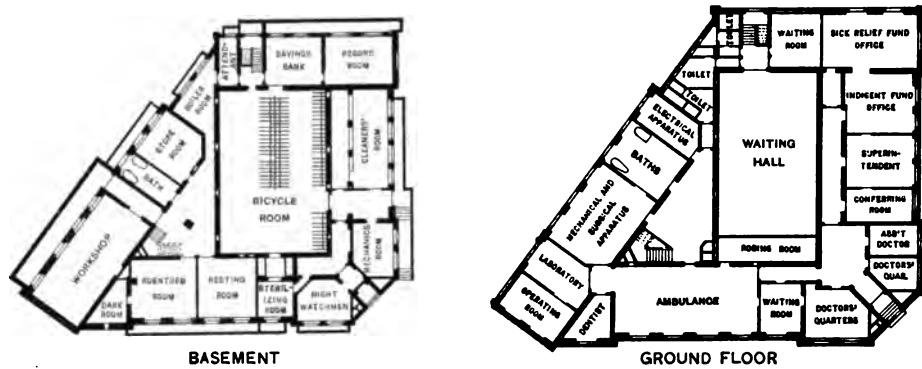
RESTAURANT



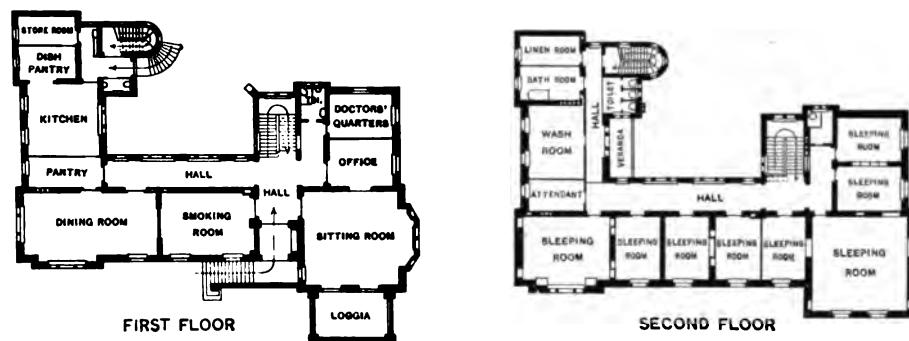
FLOOR PLAN

DINING HALL

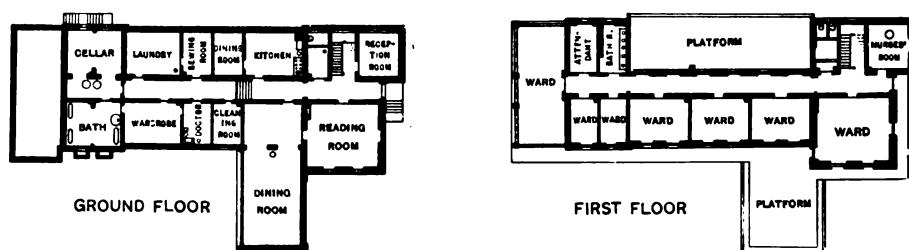
THE BADISCHE ANILIN- & SODA-FABRIK



THE AMBULATORIUM

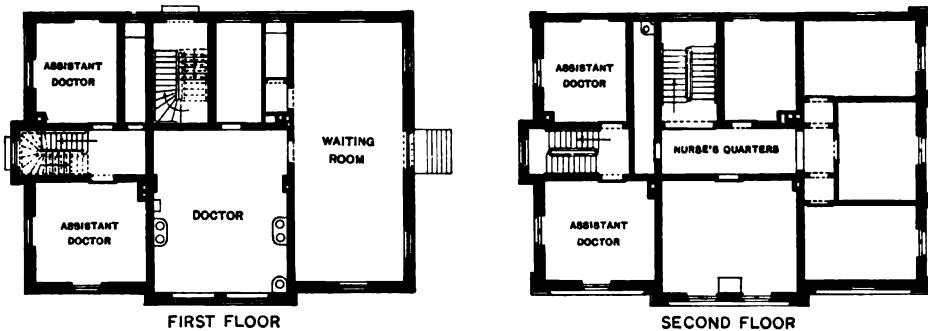


CONVALESCENT HOME



HOSPITAL HOME AT DANNENFELS

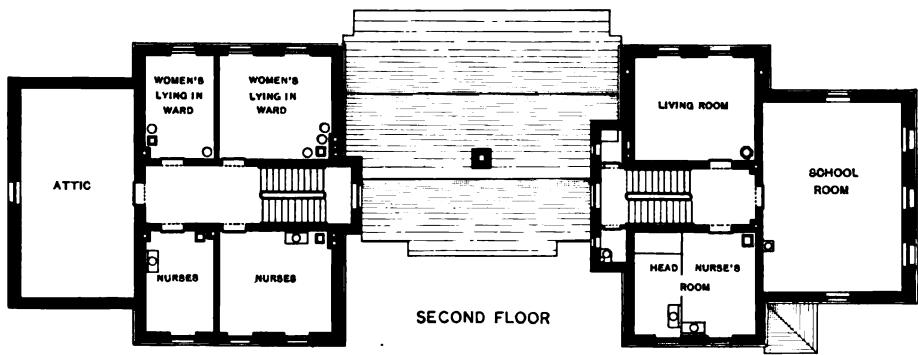
THE BADISCHE ANILIN- & SODA-FABRIK



NURSES' HOME

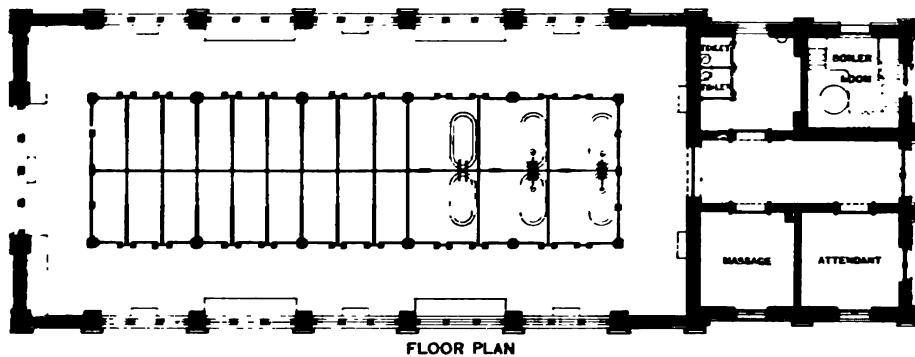


FIRST FLOOR



LYNING-IN HOSPITAL

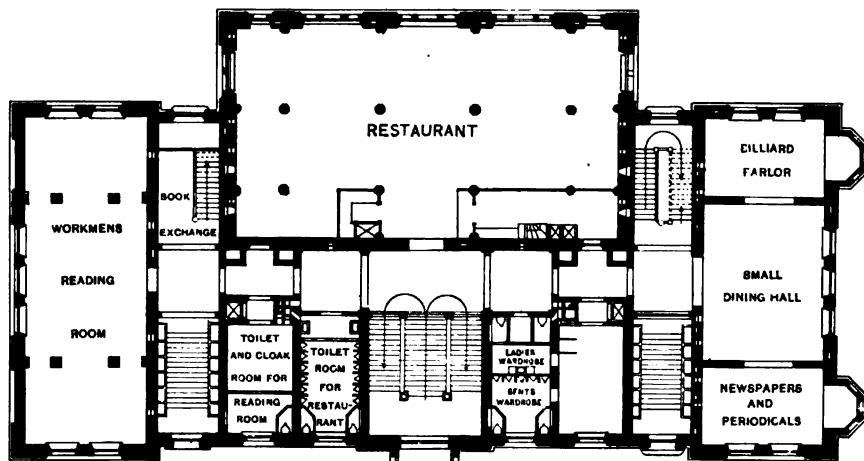
THE BADISCHE ANILIN- & SODA-FABRIK



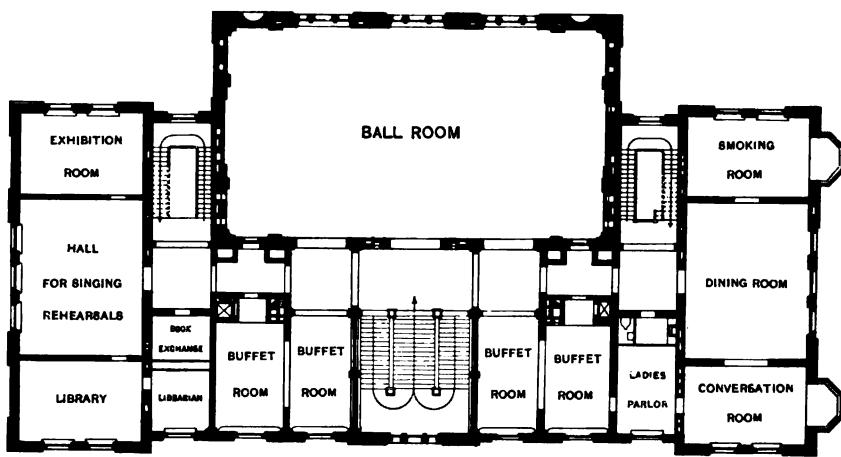
FLOOR PLAN

BATHS FOR WOMEN AND CHILDREN

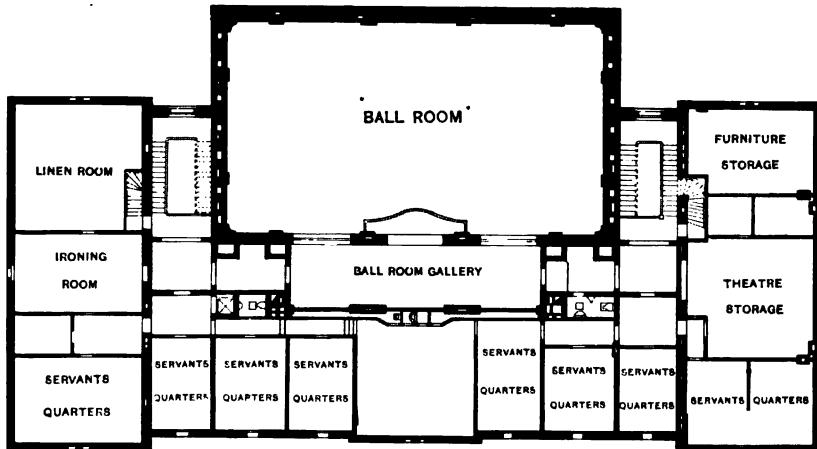
THE BADISCHE ANILIN- & SODA-FABRIK



GROUND FLOOR



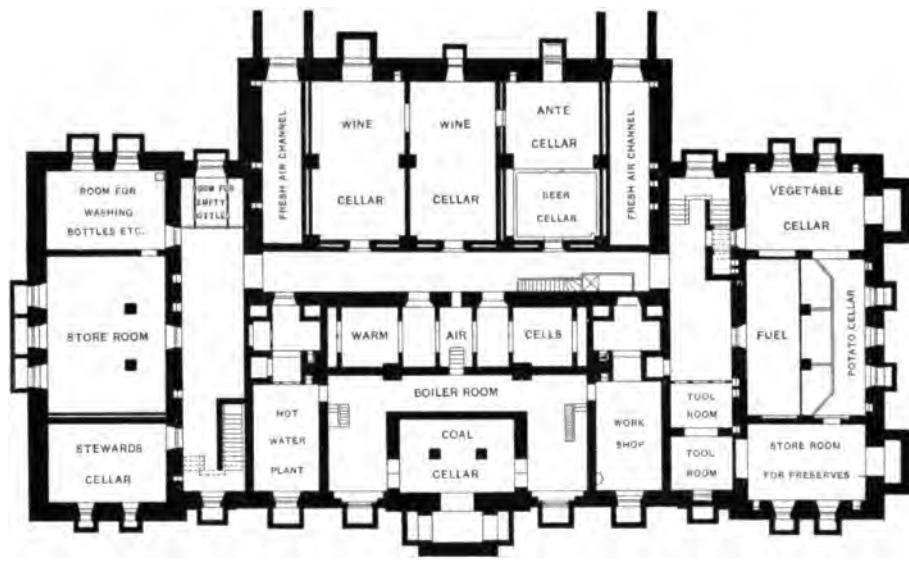
FIRST FLOOR



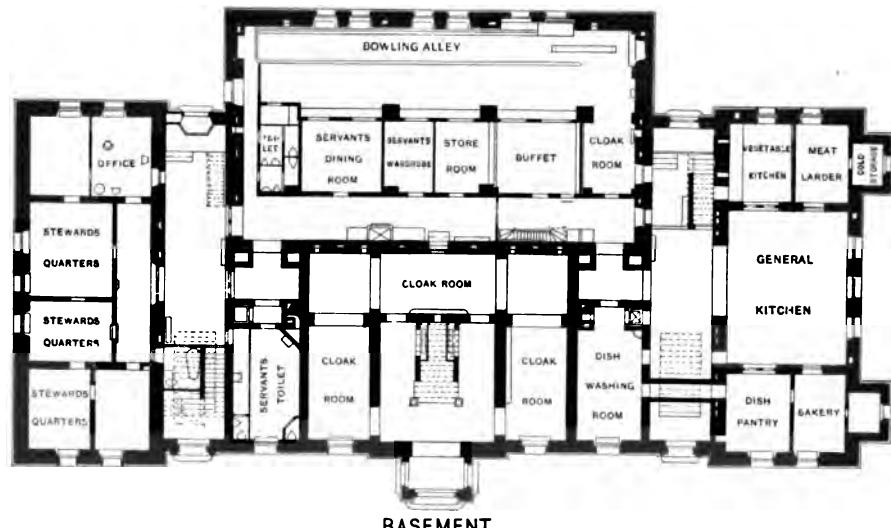
ATTIC

FLOOR PLANS, CASINO

THE BADISCHE ANILIN- & SODA-FABRIK



FLOOR PLAN OF CELLAR



BASEMENT

FLOOR PLANS, CASINO



Chasmar-Winchell Press
New York—Pittsburgh—Cleveland